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A REPORT TO THE  
SECRETARY OF COMMERCE  
BY THE ADVISORY COMMITTEE  
ON THE

# ESSA Commissioned Officer Corps



U.S. DEPARTMENT OF COMMERCE / Environmental Science Services Administration

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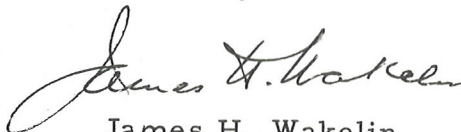
The Honorable John T. Connor  
Secretary of Commerce  
Washington, D. C.

Dear Mr. Secretary:

We have the honor to transmit to you the Report of the Advisory Committee on the Commissioned Officer Corps of the Environmental Science Services Administration.

The members of the Committee: Dr. Lloyd V. Berkner, Lieutenant General Thomas S. Moorman, Jr., Dr. Richard S. Morse and Dr. Luther L. Terry join with me in expressing our thanks to all of those in your Department who have so generously provided us with information and assistance during the course of our meetings this Spring.

Sincerely,

A handwritten signature in cursive script, reading "James H. Wakelin".

James H. Wakelin  
Chairman

JHW:mb

FINDINGS AND RECOMMENDATIONS OF THE ADVISORY COMMITTEE  
APPOINTED IN FEBRUARY 1966  
BY THE HONORABLE JOHN T. CONNOR, SECRETARY OF COMMERCE  
TO CONDUCT A STUDY OF THE COMMISSIONED OFFICER CORPS  
OF THE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

June 1966

COMMITTEE MEMBERS

Dr. James H. Wakelin, Jr., Chairman

Dr. Lloyd V. Berkner

Lt. General Thomas S. Moorman, Jr.

Dr. Richard S. Morse

Dr. Luther L. Terry

## INTRODUCTION

This report contains the findings and recommendations of the Advisory Committee appointed in February 1966, by the Honorable John T. Connor, Secretary of Commerce, to conduct a study of the Commissioned Officer Corps of the Environmental Science Services Administration (ESSA). This agency was established on July 13, 1965, based on Reorganization Plan No. 2 of 1965. Members of the Committee were: Dr. James H. Wakelin, Jr., Chairman of Research Analysis Corporation, McLean, Virginia, Committee Chairman; Dr. Lloyd V. Berkner, Professor, Southwest Center for Advanced Studies, and Chairman of the Board of Trustees, Graduate Research Center of the Southwest, Dallas, Texas; Lt. General Thomas S. Moorman, Jr., Superintendent, U. S. Air Force Academy; Dr. Richard S. Morse, Professor, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, Massachusetts; Dr. Luther L. Terry, Vice President for Medical Affairs, University of Pennsylvania, Philadelphia, Pennsylvania; Vice Admiral H. Arnold Karo, Deputy Administrator, ESSA, Executive Secretary.

The Committee was asked to review the function of the commissioned corps within ESSA; the training and educational needs of the commissioned corps; career planning guidelines for the corps; and the relationship between the civilian and commissioned personnel of ESSA. The Committee concerned itself with these questions and the report is addressed primarily to the development and effective utilization of the corps capabilities.

After detailed study and lengthy discussion the Committee has reached the conclusion that a commissioned officer corps offers the



best mechanism for increasing the effectiveness of ESSA in meeting certain of its worldwide responsibilities in the environmental sciences.

The Committee has not made detailed comments and recommendations concerning the civilian personnel of ESSA since this was not within the scope of the task it was asked to perform. However, the Committee is in complete agreement that the professional relationship between the civilian scientific personnel and the commissioned officer corps should be close and that there must be concurrent enhancement of both the civilian personnel and the commissioned officer corps in order to strengthen the capabilities of ESSA.

Just as the geophysical environment is global in nature so also is the mission of the ESSA. From this it follows that ESSA has a growing need

- a. to operate in remote areas of the world, and
- b. to engage in hazardous operations,

resulting from the severe nature of environmental phenomena, and the need to acquire data from inhospitable or marine environments, at times and places in part determined by the environment itself.

These make essential a quick response-capability in ordering men to duty.

The acquisition of environmental data frequently involves duty requiring long periods of family separation, limited opportunity for professional growth, and work under unpleasant conditions. These

activities must be carried on by professionals with high technical competence in the geophysical sciences and the capacity to command, manage, and direct remote operations in ocean environments, in polar and other regions, and in space. Many of the assignments are mobile in nature. These require a dedicated corps of people of high esprit.

The foregoing objectives can be achieved through a commissioned corps, the nucleus of which is comprised of the present ESSA corps, formerly the commissioned corps of the Coast and Geodetic Survey.

### Summary of Recommendations

1. The commissioned officer corps offers the best mechanism for the fulfillment of certain worldwide responsibilities of ESSA and should be expanded and fully utilized to meet them.
2. Members of the commissioned officer corps of ESSA must be highly trained and competent to fulfill the command, the line and the technical responsibilities at sea, in the air and in space or in other unusual or hazardous duties in order to provide the ESSA with necessary capabilities to meet its stated objectives.
3. The technical and scientific development and competence of the commissioned corps and the civilian components of ESSA should be enhanced concurrently. It is essential to the mission of ESSA that this overall competence be brought to the highest state of perfection.
4. Opportunities to advance and assume management positions should be open to both civilian and commissioned personnel on a "best qualified" basis consistent with existing legislative authority.
5. The size of the commissioned officer corps should be determined by the projected fleet size and on the basis of 50 per cent combined sea, mobile, and remote area duty throughout the career of an officer.
6. Legislation clearly defining the establishment, responsibilities, duties, procedures, and benefits of the commissioned officer corps of ESSA should be codified into one enactment.

7. The commissioned officer corps should not be included under the jurisdiction of the Uniform Code of Military Justice except during times of national emergency.
8. A more clearly defined system for promotion, selection-out, and separation based on qualifications and merit should be instituted.
9. The benefits and entitlements of the ESSA commissioned corps should be equated to those of the Armed Forces.
10. The basic tour of duty should be extended from two to three years to increase the effectiveness of the officer corps in ESSA and to more clearly conform with the requirements of the armed services for military duty.
11. ESSA should initiate a positive, publicized Career Development Program with increased emphasis on advanced education and periodic refresher training.
12. A flexible system allowing both permanent and temporary transfer of commissioned officers between ESSA and the Armed Forces should be implemented.
13. The ESSA officer recruitment sources should be broadened to include: loan of officers from Armed Forces; appointment of outstanding reserve officers of the Armed Forces; and appointment of ESSA and other civil service employees.
14. ESSA should investigate the possibility of providing financial assistance to students for eventual commissioning in ESSA through development of cooperative programs with appropriate universities,



and of increasing the entering classes of the service academies to provide some of their graduates for the ESSA corps each year.

15. The feasibility of an ESSA Reserve Corps structure should be investigated.
16. An ESSA Mobilization Plan should be established for the Commissioned Corps of ESSA.



I. Need for a Commissioned Officer Corps in ESSA

Recommendation No. 1 - The commissioned officer corps offers the best mechanism for the fulfillment of certain worldwide responsibilities of ESSA and should be expanded and fully utilized to meet them.

Recommendation No. 2 - Members of the commissioned officer corps of ESSA must be highly trained and competent to fulfill the command, the line and the technical responsibilities at sea, in the air and in space or in other unusual or hazardous duties in order to provide the ESSA with necessary capabilities to meet its stated objectives.

ESSA was formed to provide a single national focus for our efforts to describe, understand, and predict the state of the oceans, the state of the lower and upper atmosphere, and the size and shape of the earth.

This mission charges the several ESSA components with responsibilities in research, scientific investigations, and in operations in marine sciences; surveys and engineering; world meteorology and climatology; and in the processes of interaction between the sea, land, and atmosphere. This global mission makes it increasingly necessary for ESSA:

- a. to operate in remote areas of the world, and
- b. to engage in hazardous operations,

resulting from the severe nature of environmental phenomena, and the need to acquire data from inhospitable or marine environments, at times and places in part determined by the environment itself.

These make essential a quick response-capability in ordering men to duty.

The acquisition of environmental data involves, in many cases, duty requiring long periods of family separation, limited opportunity for professional growth, and work in unpleasant conditions. Many of the assignments are mobile in nature. This requires a dedicated corps of people of high esprit. The Committee agrees that the best mechanism for achieving these objectives, and fulfilling certain responsibilities of ESSA, is a commissioned corps comprised of professionals with high technical competence in the geophysical sciences who:

- a. volunteer, by acceptance of commissions, for unusual duty, and accept the right of the organization to order them to any assignment, with no guarantee of tenure;
- b. have the capacity to command, manage and direct remote operations in ocean environments, in polar and other regions, and in space, and thus fulfill both line responsibilities and technical objectives of ESSA at sea and in other field assignments;
- c. develop through planned rotation and training, strong multidiscipline understanding and capabilities necessary for cooperation, communication, and cross fertilization of ideas between ESSA activities; and
- d. form a group with specialized skills readily available for transfer to the armed services in time of war or national emergency.

## II. Character and Utilization of ESSA Commissioned Officer Corps

Recommendation No. 3 - The technical and scientific development and competence of the commissioned corps and the civilian components of ESSA should be enhanced concurrently. It is essential to the mission of ESSA that this overall competence be brought to the highest state of perfection.

Recommendation No. 4 - Opportunities to advance and assume management positions should be open to both civilian and commissioned personnel on a "best qualified" basis consistent with existing legislative authority.

Recommendation No. 5 - The size of the commissioned officer corps should be determined by the projected fleet size and on the basis of 50 per cent combined sea, mobile, and remote area duty throughout the career of an officer.

It is important to maintain strict qualification standards for commissioned personnel. But as a step toward developing capability in depth for the corps for service throughout the organization, the recruiting base should be broadened to attract those with academic backgrounds in all of the ESSA disciplines.

Interdisciplinary experience and outlook have been and should continue to be effective attributes of the commissioned corps. However, it is apparent that individual specialization must also be encouraged, after some experience in two or more fields.

Career patterns must provide for postgraduate study. As an ultimate objective about 40 or 50 per cent of the corps should have advanced degrees, including some with doctorates. Those who demonstrate



the desire and potential should be encouraged and permitted to develop research capability. Promotion and selection-out processes should be strengthened and used to recognize outstanding officers, to weed out the unsuccessful, to maintain performance at a high level, and to provide strong motivation for the development of high professional competence.

The commissioned corps needs to be substantially expanded to carry out its responsibilities. Present operational programs require a disproportionate number of officers on sea duty and mobile field assignments. An insufficient number are assigned to advanced training and fixed shore duties in support of field operations; most assignments must now be made to meet immediate program needs at the expense of logical career planning. Frequent long periods of family separation contribute to a high attrition rate. Projected plans for expansion of the present fleet will require assignment of many additional officers to sea duty during the next several years. The following table lists annual requirements for the planned fleet:

<u>Year</u>	<u>Number</u>
1965	98 actual 6/30
1966	122
1967	146
1968	146
1969	146
1970	175
1971	200

<u>Year</u>	<u>Number</u>
1972	240
1973	260

Figures allow time for training prior to anticipated ship delivery dates.

Up to 50 additional officers will be required at various times as part of the nonoperating scientific complement of the fleet.

A realistic balance between sea, mobile, and fixed shore duty, based on program operating needs; experience and training required to develop capabilities; and the amount of family separation and nomadic duties acceptable to a majority, should be maintained. A general pattern of 9-years sea duty, 6-years mobile duty and 15-years fixed shore duty appears to the Committee to be realistic and should provide the framework for adequate, attractive career planning.

The Committee does not wish to recommend a specific numerical strength for the corps. The number should be based on projected fleet requirements and assignment of the officers at sea for about one-third of their careers together with other mobile and hazardous duty assignments as ESSA finds appropriate.

The Committee feels that with recruitment and development of those with backgrounds to fill existing and projected ESSA program requirements and an orderly expansion the officers will serve effectively throughout the organization. It is essential that when assigned ashore they be placed in challenging, productive positions that are clearly beneficial to ESSA and which will develop and make



use of their individual capabilities. Having broad technical and scientific training, they will provide one mechanism for an effective integration of the many disciplines needed for study and understanding of the total environment.

The Committee feels strongly that the professional competence of the civil service personnel must also be enhanced; both civilian and commissioned personnel should have the highest scientific and technical capabilities in order properly to fulfill the objectives of ESSA. Opportunities to advance and assume management positions should be open to both civilian and commissioned personnel, on the basis of individual merit, to encourage initiative and development of all personnel.

### III. Legislation Recommended for ESSA Commissioned Officer Corps

Recommendation No. 6 - Legislation clearly defining the establishment, responsibilities, duties, procedures, and benefits of the commissioned officer corps of ESSA should be codified into one enactment.

The Committee finds that the present legislation does not clearly define the establishment, responsibilities, duties, procedures, and benefits of the officer corps. Legislation should be enacted that will clarify these points. It should be explicit with respect to authority for the operation of the corps and broadly written to allow for administrative operating procedures to be established by the Secretary of Commerce.

Recommended guidelines for remedial legislation include:

1. The requirements for professional personnel leading to an authorized strength of the corps. (See Sections I and II)
2. Revision of the present limitation allowing appointments only up to lieutenant to permit initial appointment at any rank through captain. To ensure an orderly expansion of the commissioned corps with a desirable distribution of rank and experience, a number of qualified people must be recruited for the upper ranks.
3. Authority for the distribution of numbers of officers in rank taking into account the enlarged responsibilities, the projected high percentage of advanced degree holders, and the overall professional competence within the corps.

4. Removal of the current restriction on temporary promotion and authorization for the Secretary of Commerce to establish the number of temporary promotions.
5. A more clearly defined procedure for advancement, selective promotion, and selection-out within the corps. (See Section V)
6. Parity with the Armed Forces with respect to benefits and entitlements. (See Section V)
7. Legislative authority to administratively extend the basic tour of duty from two years to three years. (See Section VI)
8. Establishment of an ESSA Commissioned Officer Training Act. The provisions for advanced education are limited by the Government Employees Training Act. In view of the increased mission, responsibilities and educational requirements of the commissioned corps, and the need to provide a more attractive career development program, the provisions for advanced education are inadequate.
9. Provision for permanent lateral transfer of commissioned officers between ESSA and the Armed Forces. (See Section VIII)
10. Conversion of the ESSA Commissioned Officer Corps to an Armed Forces status in time of national emergency. The status of an ESSA commissioned officer not transferred to an armed service during wartime is not clearly defined under

the Articles of the Geneva Convention. This measure would not afford protection for civilian crew members aboard armed C&GS vessels and for whom other protective provisions should be made.



#### IV. Code of Military Justice

Recommendation No. 7 - The commissioned officer corps should not be included under the jurisdiction of the Uniform Code of Military Justice except during times of national emergency.

The Committee recommends that the ESSA corps not be covered by the Uniform Code of Military Justice. The advantages and disadvantages have been studied at some length, and are discussed briefly.

The UCMJ is applicable only to the military, and therefore cannot be applied to ESSA. Conversion to an armed service would create several serious problems.

1. Many foreign nations are reluctant to enter into cooperative programs in which the military is involved. ESSA is deeply committed to several such international programs.
2. ESSA lacks the facilities and personnel required for enforcement of the UCMJ, and unless provided by the other services, would have to spend large amounts to establish and maintain the enforcement mechanism.
3. Offenses and punishments covered by the UCMJ are more rigid and inflexible than necessary or desirable for the ESSA corps under ordinary circumstances. Under existing legislation ESSA officers are subject to the UCMJ when assigned to and serving with the Armed Forces.

The only apparent advantages of UCMJ coverage:

1. Obligatory terms of service could be enforced. ESSA officers cannot now be legally prevented from resigning



at any time, but this alone is not enough of a problem to warrant application of the UCMJ. Those who resign short of the two year period required by the Selective Service Act to fulfill military obligations become subject to the draft. Before starting special training the officer must agree to serve for specified periods or to reimburse the government certain amounts.

2. Adoption of the UCMJ would provide clearly defined punitive measures and legal rights of both individual and agency. Existing legislation and regulations concerning disciplinary violations and punitive measures are scattered, uncoordinated and in some cases not clearly defined.

The Committee recommends a study be made to determine the extent of the authority of the Secretary of Commerce and the Administrator, ESSA, to prescribe administrative sanctions for such noncriminal offenses as unauthorized absence, insubordination, conduct unbecoming an officer, etc., and to recommend, if necessary, appropriate legislation for this purpose.

V. Incentive Promotion and Pay Within the Corps

Recommendation No. 8 - A more clearly defined system for promotion, selection-out, and separation based on qualifications and merit should be instituted.

Recommendation No. 9 - The benefits and entitlements of the ESSA commissioned corps should be equated to those of the Armed Forces.

A more flexible procedure should be established for selective promotion for those with outstanding qualifications who have continually demonstrated excellence in both overall performance and potential.

In addition, the authority to distribute the numbers of officers by rank should be delegated to the Secretary of Commerce. The percentages or numbers in grade should vary according to existing and projected personnel requirements. The limitation on the number of temporary promotions set at  $1\frac{1}{2}$  per cent of the total corps strength should be removed and authority be given to the Secretary of Commerce to establish the number of temporary promotions.

Various categories of incentive pay authorized to members of the uniformed services and Armed Forces are itemized on an attachment to this section.

Some ESSA commissioned officers readily meet the requirements for "Special pay - officers holding positions of unusual responsibility and of critical nature." The committee recommends that ESSA be included in the existing provision or any future modification. A pertinent article from a recent "JOURNAL" is quoted:

## Re-Study Responsibility Pay

The "officer responsibility pay" voted by Congress eight years ago, but never implemented, will receive new appraisal within DoD during the wide-ranging Pentagon study of the current military pay structure.

Impetus for the new look has been provided by the Navy which, on its own, has urged adoption of a "command at sea" and "deployed command" pay for Naval and Marine Corps officers. The concept would have equal application to officers of the Army and Air Force.

Under the Navy proposal, officers who would be eligible for command-at-sea pay would include: Commanding Officers of active commissioned ships and CO's of aircraft squadrons operating with or in direct support of fleets, and unit commanders of ships and squadrons.....

The "responsibility pay" originally enacted by Congress gave the Services authority to boost the paychecks of all officers assigned positions of "extraordinary responsibility and critical necessity." At the time it was expected to cost about \$12-million. The plan was never put into effect by the Defense Department.

Under its terms, the Services would have been authorized to pay up to 5% of officers in pay grade O-3 an additional \$50 per month, 10% of O-4's an additional \$50 per month, 10% of O-5's an additional \$100 per month and 10% of O-6's an extra \$150 per month.

The Navy proposal, which has many earmarks of the earlier plan (it would provide the same amounts) was put together by the Alford Task Force on career retention and has strong backing in the Bureau of Naval Personnel. It was among 82 recommendations made by the Task Force which subsequently were approved by the Sec-Nav Manpower Policy Board.

The plan subsequently was forwarded to DoD for study and coordination with the other Services. It is now expected to receive top-level appraisal in connection with the current pay study.

The JOURNAL of the Armed Forces  
Vol. 103, No. 35, April 30, 1966



Tangible support should be provided by ESSA to the Navy's efforts to secure sea duty pay for commissioned officers - apart from responsibility pay and family separation pay.

While ESSA and the Armed Forces are paid according to the same pay laws, the Armed Forces members enjoy certain additional benefits and entitlements, i.e., FHA In-Service Loan Insurance and Soldiers and Sailors Relief Act protection. The reasons often advanced for these additional benefits include:

1. Hazardous occupation.
2. No established work day or week.
3. Restriction on free time.
4. Instability attendant to job and home life.
5. High physical standards.
6. Promotion up or selection-out.
7. Maintenance of civilian and military attire.

Since the basis for armed services benefits applies to ESSA, and since ESSA uniformed officers may be transferred to the Armed Forces during times of national emergency, the Committee recommends that the Commerce Department seek amendatory legislation to provide commissioned personnel of ESSA with the same benefits as members of the Armed Forces.

5. (Attachment) Incentive Pay

Assignment or Qualification	Applicable to or Payable to ESSA	Specifications	Monthly Amount
Hazardous duty - Uniformed services	yes	Assignment to flight, sub- marine, etc., duty	\$50-\$245
Special Pay for sea duty - Enlisted members	no	Permanent duty to ship - En- listed members only	\$8-\$22.50
Special Pay - Phy- sicians, dentists, veterinarians - Uniformed services	no		\$100-\$350
Special Pay - Diving duty - Uniformed services	yes	SCUBA diving, etc.	no to ex- ceed \$100
Special Pay - officers holding positions of unusual responsibility and of critical nature. Armed Forces (see further discussion)	no	Various positions as designated by Secretary.	\$50-\$150
Special Pay - Pro- ficiency pay for en- listed members - Uniformed services	no	Individuals designated by Secretary as being specially proficient in a military skill	\$50-\$150
Family separation allowance - Uniformed services	yes	Separation from family for over 30 days	\$30
Duty subject to hostile fire	yes		\$35



## VI. Tour of Duty

Recommendation No. 10 - The basic tour of duty should be extended from two to three years to increase the effectiveness of the officer corps in ESSA and to more clearly conform with the requirements of the armed services for military duty.

Selective Service requirements for military obligation are fulfilled by two years of commissioned service in ESSA, with no requirement for reserve status after that. The only exceptions are the ROTC graduates who can, with the consent of the Service concerned, fulfill the active duty portion of their commitments by two years service in the ESSA Corps; those who resign at the end of two years are subject to reserve status in accordance with their original agreement, at the discretion of the Service concerned.

Males under 26 years of age entering military service are obligated, with certain exceptions, for a total of six years service in combined active duty and reserve status. Fulfillment of obligation by only two years service in the ESSA Corps does not conform with the requirements of the armed services for military duty.

The organization often does not derive full benefit of the training given those officers who resign at the end of two years, even though the training is usually given on the job in operational assignments with reasonable production expected.

The Committee feels strongly that the Secretary of Commerce should have administrative authority to extend the basic tour of duty from two years to three years to increase the effectiveness of the officer

corps in ESSA, and to more nearly conform with the requirements of the armed services for military duty.

The Committee also recognizes the fact that the outcome of recent proposals for periods of obligatory service, military or otherwise, by all young Americans may significantly alter the present situation.

## VII. Career Development

Recommendation No. 11 - ESSA should initiate a positive, publicized Career Development Program with increased emphasis on advanced education and periodic refresher training.

The Committee recommends a progressive career development policy and program to create and develop a versatile pool of scientific, engineering, and administrative personnel. The distribution of talent and capabilities within this pool should be based upon existing and projected program requirements. Exposure to more than a single disciplinary channel is mandatory but generalization to the extent that technical proficiency is sacrificed must be avoided.

Program operation should be coordinated through a career development board comprised of high level representation from each ESSA major line component. The board would, in addition, act as an advisory body to the Administrator and Deputy Administrator on both individual and broad policy matters. General guidance for committee decisions can be provided by career development charters from each line component defining: recruitment direction, manpower needs, selection and training criteria, rotation and utilization policies, and coordination with the anticipated 9-6-15 career pattern ratio of sea, mobile, and fixed duty for commissioned officers.

Recognition and designation of various assignments, with a wide range of responsibility, as rotational career development positions for both commissioned officers and civilians are essential to this proposed program. Occasional handicaps to local operations caused



by rotation out of experienced personnel will be more than offset by long-term, overall benefits to the Administration as a whole.

Basic training and bureau orientation should be stressed during the first three years of service. Specific training in leadership should be required of new officers. Since this may be considered a probationary period on the part of both agency and careerist an assignment to sea duty is recommended; early exposure to the discipline of sea-life and separation from family is essential to both service and individual as an indicator of career aptitude and potential. Other challenging assignments, not confined to a single program area, should be made during the initial career phase.

Intensive specialization development should be emphasized during the second major career phase extending from approximately the fourth to the ninth year of service. Qualified officers must be allowed and encouraged to pursue ESSA related graduate studies as early in this phase as possible. Liberal policies allowing advanced education for extended periods up to two or three years should be adopted and stated as a formal ESSA career development educational program. Encouragement and incentive should be provided for publishing scientific papers, and participating in professional and scientific society activities. During this important developmental phase, every attempt should be made to correlate individual talent with project requirements on both sea and shore assignment. Increased responsibilities in administration and staff support functions are essential experience for an advancing careerist.



Careerists in their third phase, or the maximum technological and scientific utilization period, should be well equipped to fill positions of increased program responsibility and policy formulation. The Administration will then reap the manifold benefits of the first ten years of training and experience. Technological proficiency and morale must be carefully nurtured through periodic refresher courses and further advanced training for periods of up to one year, particularly after an extended ship assignment, when an officer's primary field of interest may be elsewhere.

Selection for program direction and top management, the final career level in ESSA, must be made on a "best qualified" basis without regard to uniformed status or rank.

The previous discussion refers principally to engineers and "operational scientists"; career patterns for the research oriented scientist are more difficult to delineate and would be somewhat unique with the individual.

Two hypothetical examples of suggested typical career patterns for individuals of widely varying interests and depths of specialization are shown. It is not intended that these patterns be considered as rigidly prescribed with respect to area, length, or sequence of assignments.

Example 1 (Specialist)

Geophysics

Career Phase

Typical Assignment

0-3 years

Initial orientation period (Training Class).

Major ship involved in some geophysical work, i.e., magnetic ocean bottom seismological studies, etc. Experience in all operational areas.

Specialized geophysical program, i.e., seismic study group, including mobile duty, etc.

3-10 years

Emphasis on attendance in Graduate school in specialty for qualified officers.

Major ship involved in geophysical work. More responsibility in program direction areas.

Hdqtrs. assignment in geophysical operational area or in Institute of Earth Sciences.

Major ship involved in geophysical work. Major line and program direction responsibility, i.e., field works officer, etc.

10-20 years

Refresher training and advanced courses in graduate school.

Geophysical observatory; assistant and/or officer-in-charge.

Major ship - Executive officer and/or special geophysical studies scientific leader.

Headquarters level, administrative or special studies duty in geophysically related areas.

Over 20

Command of major vessel or special projects leader.

Remainder of career can be in any of a number of assignments drawing upon administrative and/or technical background gained from earlier assignments. The ship experience would serve as the recurring common point where the individual received a cross sectional exposure to other bureau programs and objectives.

### Example 2 (Generalist)

Any officer who prefers not to confine his career  
to a relatively narrow specialty

<u>Career Phase</u>	<u>Typical Assignment</u>
0-3 years	<p>Initial orientation period (Training Class).</p> <p>Major or minor ship involved in combined operations. Experience in all operational areas.</p> <p>Mobile or fixed duty in any operational area throughout ESSA. Work would be productive with "on the job" training.</p>
3-10 years	<p>Major ship - General line duty Minor ship - Executive officer</p> <p>Emphasis on attendance in Graduate school in Business Administration, Public Adm., etc.</p> <p>Experience in all operational areas either class ship.</p> <p>Staff assignment at Headquarters or regional level in area of individual's primary interest.</p> <p>Medium ship - Executive officer Minor ship - Commanding officer</p>
10-20 years	<p>Administrative assignment of increased responsibility at headquarters or regional level. Several lateral transfers to different operational areas may be desirable during this period.</p> <p>Major ship - Executive officer Medium ship - Commanding officer</p> <p>Extension courses in Administration.</p> <p>Administrative assignment of Division Chief, Regional Officer, or Senior Staff level, etc.</p>
Over 20 years	<p>Major ship - Commanding officer Staff College</p> <p>Remainder of career in top administrative positions, i.e., Associate Director, Program planning, etc. These men will be experienced administrators with a good general working knowledge of overall Administration programs and objectives.</p>



#### VIII. Commissioned Officer Recruitment Sources

Recommendation No. 12 - A flexible system allowing both permanent and temporary transfer of commissioned officers between ESSA and the Armed Forces should be implemented.

Recommendation No. 13 - The ESSA officer recruitment sources should be broadened to include: loan of officers from Armed Forces; appointment of outstanding reserve officers of the Armed Forces; and appointment of ESSA and other civil service employees.

Recommendation No. 14 - ESSA should investigate the possibility of providing financial assistance to students for eventual commissioning in ESSA through development of cooperative programs with appropriate universities, and of increasing the entering classes of the service academies to provide some of their graduates for the ESSA corps each year.

##### A. Interservice Transfer of Officers

A system permitting the transfer of officers between ESSA and certain components of the armed services should be investigated to promote the exchange of concepts, methods and participation in operations of mutual interest. Some of the obvious areas in which the work of the military complements that of ESSA include oceanography, meteorology, geodesy, and satellite technology.

The assignment of officers to and from the Armed Forces on a temporary additional duty status would provide flexibility to meet changing needs. There is limited precedence for this type



of operation. Since World War II the Coast and Geodetic Survey has assigned officers, upon request, to the armed services to serve in staff and training positions requiring their particular capabilities; an Air Force officer is now assigned to ESSA as Military Advisor to the Administrator; Public Health Service doctors (commissioned) are assigned aboard some of the C&GS ships. Under this arrangement the officer is under operational control of the recipient and administrative control of the parent service.

Present legislation (10 USC 716) permits the permanent transfer of any officer, with his consent, from the Army, Navy, Air Force, or Marine Corps, to any of those other services. It is recommended that inclusion of ESSA and ESSA officers be considered, subject to mutual consent of the services concerned and that of the individual officer. Authority for transfer on this basis appears potentially advantageous to all the uniformed services.

#### B. Other Officer Recruitment Sources

Additional sources of recruitment for the ESSA Commissioned Officer Corps should include:

1. Reserve officers from the Armed Forces.
2. Outstanding college students commissioned after participation in a government financed joint cooperative program with appropriate universities.
3. ESSA and other civil service employees who can meet the physical and professional prerequisites.

4. Direct appointment of qualified college graduates.
5. Qualified R.O.T.C. college graduates with the consent of the parent service.

ESSA should, in addition, investigate the possibility of increasing the entering classes of the service academies on a reimbursable basis to provide an annually fixed number of graduates to the commissioned corps.

## IX. Reserve Organization

Recommendation No. 15 - The feasibility of an ESSA Reserve Corps structure should be investigated.

Recommendation No. 16 - An ESSA Mobilization Plan should be established for the Commissioned Corps of ESSA.

There is no provision in ESSA's commissioned corps structure for a reserve corps. The Committee recommends that a reserve structure be investigated; the primary purpose would be to provide close cooperation and exchange relationships with other scientists in academic and technical institutions. Scientists doing research in areas of direct interest to ESSA frequently do not have access to the facilities desirable to pursue their investigations. Many would welcome the opportunity to enter a reserve structure which would permit them, for example, to go aboard C&GS ships as members of ESSA and actively participate in oceanographic or meteorological research at sea. The individual would feel, and be viewed as a member of the group - not as somewhat of an outsider. Some may well be former members of the corps who have resigned after two or more years of service.

Many of the officers who resign and normally sever official connections with the organization would prefer to enter a reserve corps. If subject to recall in time of war they would be particularly valuable in filling vacancies left by regular officers transferred to the Armed Forces.

A reserve structure with an extensive training program, such as annual active duty training tours, or weekly or monthly meetings, would be expensive, cumbersome to administer, and is not recommended.

There is another and perhaps preferable method of providing close relationships with the scientific community. Various types of temporary appointments can be made under existing civil service regulations; those with particular skills could come to work as temporary employees as the need arises or when an individual wants to participate in planned programs as part of his own scientific program. This arrangement is used very effectively by the Geological Survey.

The Committee feels strongly that ESSA should maintain very close ties with the scientific community, and recommends that both systems be investigated. It is possible that both should be implemented. New legislation would be necessary to establish a Reserve Officer Corps, while the alternative proposal could be effected within the framework of existing legislation.

It is also recommended that if an Officer Corps Reserve structure is established, ESSA develop a mobilization plan which would include:

- a. mobilization positions within ESSA to which those with reserve commissions would be called to active duty;
- b. mobilization positions with the military services to which members of the ESSA corps would be assigned to meet specific requirements..